

WEST[Help](#)[Logout](#)[Main Menu](#)[Search Form](#)[Posting Counts](#)[Show S Numbers](#)[Edit S Numbers](#)[Generate Collection](#)**Search Results - Record(s) 1 through 23 of 23 returned.**☒ 1. Document ID: US 5948708 A

Entry 1 of 23

File: USPT

Sep 7, 1999

US-PAT-NO: 5948708

DOCUMENT-IDENTIFIER: US 5948708 A

TITLE: Vapor protection suit and fabric having flash fire resistance

DATE-ISSUED: September 7, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Langley, John D.	Guntersville	AL	35976	N/A

US-CL-CURRENT: 442/131; 442/132, 442/133, 442/135, 442/136, 442/228, 442/230, 442/231 , 442/236

ABSTRACT:

A multi-layer composite consisting of a chemical barrier layer of, a flame resistant layer, and a reflective layer. The chemical barrier layer is itself a composite material having multiple substrates selected to minimize permeability.

9 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Image
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☐ 2. Document ID: US 5928745 A

Entry 2 of 23

File: USPT

Jul 27, 1999

US-PAT-NO: 5928745

DOCUMENT-IDENTIFIER: US 5928745 A

TITLE: Thermoplastic fuel tank having reduced fuel vapor emissions

DATE-ISSUED: July 27, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wood; Willard E.	Arden Hills	MN	N/A	N/A
Beaverson; Neil J.	Hugo	MN	N/A	N/A

US-CL-CURRENT: 428/36.6; 428/35.4, 428/36.7, 428/518, 428/520, 428/522

ABSTRACT:

The invention can comprise a thermoplastic fuel tank or container having a vapor barrier comprising a cyclodextrin composition. A modified cyclodextrin that is chemically modified with substituents that increase the compatibility of the cyclodextrin material in the fuel container material can be used. The improved fuel container obtains substantial barrier properties from the interaction between the cyclodextrin material in the fuel container materials with the fuel vapor permeant materials. The cyclodextrin in the fuel tank walls complexes or entraps fuel vapor that permeates through the materials making up the tank and are held within the tank material preventing the permeant fuel vapor from passing through the tank into the environment. The fuel vapor permeant can comprise a variety of well known materials including aliphatic and aromatic hydrocarbons, oxygenates such as tertiary butyl methyl ether, ethanol, methanol, and other combustible liquid fuel materials.

27 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Image
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☐ 3. Document ID: US 5874140 A

Entry 3 of 23

File: USPT

Feb 23, 1999

US-PAT-NO: 5874140

DOCUMENT-IDENTIFIER: US 5874140 A

TITLE: Sheet material with adhesive

DATE-ISSUED: February 23, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wyner; Daniel M.	North Scituate	RI	N/A	N/A
Wolkenbreit; Steven I.	Amherst	MA	N/A	N/A
Waksman; Jack	Easton	MA	N/A	N/A

US-CL-CURRENT: 428/36.1; 428/200, 428/349, 428/354, 428/36.5

ABSTRACT:

A two-layer material suitable for use as a barrier layer for a cushion sock in a foam-in-place process is formed by bonding a discontinuous adhesive layer to a pinhole-free, lubricant-free barrier layer. The discontinuous adhesive layer has a melting temperature higher than 180 degrees Fahrenheit. A foam cushion is molded adjacent the cushion sock by first attaching a barrier layer to the cushion sock, and vacuum drawing the cushion sock attached to the barrier layer over a mold. The cushion sock and the barrier layer are then heated to a temperature no higher than 400 degrees Fahrenheit to bond the cushion sock and the barrier layer together.

20 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 13

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMC	Image
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☐ 4. Document ID: US 5869193 A

Entry 4 of 23

File: USPT

Feb 9, 1999

US-PAT-NO: 5869193

DOCUMENT-IDENTIFIER: US 5869193 A

TITLE: Breathable polyvinyl alcohol protection wear

DATE-ISSUED: February 9, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Langley; John D.	Guntersville	AL	N/A	N/A

US-CL-CURRENT: 428/520; 2/161.7, 2/167, 2/200.1, 2/457, 428/913

ABSTRACT:

The present invention provides a readily disposable hazardous chemical and medical waste protection wear suitable for human use through utilization of a breathable, stand alone or combination laminant utilizing polyvinyl alcohol sheet material which is water soluble at various temperatures providing disposal of the stand alone or outer coating of a laminate material if utilized with reusable protection wear. The polyvinyl alcohol stand alone provides the wearer with comfort through having a MVTR rate of at least 450 grams/meter squared per 24 hours. In addition, a combination of polyvinyl alcohol and polyvinylidene chloride provides a readily disposable splash suit which is most suitable for a variety of chemicals while yet being readily disposable ie. the PVA being readily soluble in warm water and the PVDC being dispensable in water and being biodegradable.

13 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☒ 5. Document ID: US 5811359 A

Entry 5 of 23

File: USPT

Sep 22, 1998

US-PAT-NO: 5811359

DOCUMENT-IDENTIFIER: US 5811359 A

TITLE: Fire-retardant barrier structure

DATE-ISSUED: September 22, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Romanowski; John C.	Londonderry	NH	03053	N/A

US-CL-CURRENT: 442/261; 428/36.1, 428/36.2, 428/36.3, 428/36.4, 428/36.5,
428/36.6, 428/36.7, 442/255

ABSTRACT:

Fire-retardant barrier structures. The fire-retardant barrier structures are useful for protecting military personnel and equipment from both fire and chemical and/or biological agents. The fire-retardant barriers are multilayer structures having desirable flammability characteristics and resistance to nuclear, chemical and/or biological agents. The preferred barriers also possess favorable durability properties and are printable.

20 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 6. Document ID: US 5738921 A

Entry 6 of 23

File: USPT

Apr 14, 1998

US-PAT-NO: 5738921

DOCUMENT-IDENTIFIER: US 5738921 A

TITLE: Compositions and methods for manufacturing sealable, liquid-tight containers comprising an inorganically filled matrix

DATE-ISSUED: April 14, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Andersen; Per Just	Santa Barbara	CA	N/A	N/A
Hodson; Simon K.	Santa Barbara	CA	N/A	N/A

US-CL-CURRENT: 428/36.4; 206/524.3, 206/524.7, 206/819, 428/317.9, 428/34.5, 428/36.1, 428/36.5, 428/36.92, 428/532, 428/906

ABSTRACT:

Sealable liquid-tight containers and methods for economically manufacturing containers for storing and dispensing substances and any other purposes for which conventional sealable liquid-tight containers are utilized. The containers are readily and economically formed from inorganically filled mixtures comprising a water-dispersible organic polymer binder, aggregate fillers, fibers, and water. Alternatively, such containers are formed from high starch-containing compositions which optionally include inorganic fillers up to about 90%. Such compositions can be directly molded, formed into wet sheets and then molded, formed into dry sheets and then reformed, or extruded into the container components. The containers or components thereof may optionally be coated, lined, laminated, and/or receive printing.

225 Claims, 18 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 9

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMMC	Image
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☒ 7. Document ID: US 5626947 A

Entry 7 of 23

File: USPT

May 6, 1997

US-PAT-NO: 5626947

DOCUMENT-IDENTIFIER: US 5626947 A

TITLE: Composite chemical barrier fabric for protective garments

DATE-ISSUED: May 6, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hauer; Ernst J.	Steinheim	N/A	N/A	LUX
Rudys; Stasys K.	Luxembourg	N/A	N/A	LUX
Zeigler; James P.	Richmond	VA	N/A	N/A

US-CL-CURRENT: 428/195; 428/102, 428/104

ABSTRACT:

Composite chemical barrier films and fabrics that are particularly useful in protective garments. The composite barrier material may be made by laminating a barrier film to a flexible substrate using a thermoplastic resin and topcoating the barrier film with a similar or dissimilar thermoplastic resin to allow fabric seaming when the fabric is fabricated into a protective garment. Protective garments made from the materials are lightweight while maintaining an adequate balance of strength and chemical protection.

10 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 8. Document ID: US 5595945 A

Entry 8 of 23

File: USPT

Jan 21, 1997

US-PAT-NO: 5595945

DOCUMENT-IDENTIFIER: US 5595945 A

TITLE: Ceramic composite coating

DATE-ISSUED: January 21, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Wicks; George G.	Aiken	SC	N/A	N/A

US-CL-CURRENT: 501/12; 501/154

ABSTRACT:

A thin, room-temperature-curing, ceramic composite for coating and patching etal substrates comprises a sol gel silica glass matrix filled with finely ground particles or fibers, preferably alumina. The sol gel glass is made by adding ethanol to water to form a first mixture, then separately adding ethanol to tetraethyl orthosilicate to form a second mixture, then slowly adding the first to the second mixture to make a third mixture, and making a slurry by adding the finely ground particles or fibers to the third mixture. The composite can be applied by spraying, brushing or trowelling. If applied to patch fine cracks, densification of the ceramic composite may be obtained to enhance sealing by applying heat during curing.

12 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 9. Document ID: US 5558907 A

Entry 9 of 23

File: USPT

Sep 24, 1996

US-PAT-NO: 5558907

DOCUMENT-IDENTIFIER: US 5558907 A

TITLE: Pseudo-porous fiber coating for toughened ceramic composite materials and method of producing same

DATE-ISSUED: September 24, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Steffier; Wayne S.	Huntington Beach	CA	N/A	N/A

US-CL-CURRENT: ~~427/227~~; ~~427/228~~, ~~427/249.3~~, ~~427/255.24~~, ~~427/255.7~~

ABSTRACT:

A fiber-reinforced ceramic composite material exhibiting high tensile strength, high fracture toughness and high-temperature oxidation resistance is produced by simultaneously depositing a thin coating layer of refractory metal carbide with fugitive carbon onto the fiber reinforcement prior to the subsequent densification with the ceramic matrix. The energy behind propagating matrix cracks in the resulting composite material are effectively dissipated by crack deflection/branching, fiber debonding and frictional slip through the relatively weak and compliant fiber coating layer. These energy release and arrest mechanisms sufficiently impede the driving force behind unstable crack propagation and render the cracks non-critical, thereby serving to blunt and/or divert propagating matrix cracks at or around the reinforcing fiber. While significantly increasing the strength and fracture toughness of the composite, the compliant refractory fiber coating system enables the composite to remain oxidatively stable when stressed at or beyond the matrix cracking stress point and subsequently exposed to temperatures above 800.degree. C. in air,
9 Claims, 0 Drawing figures
Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 10. Document ID: US 5545435 A

Entry 10 of 23

File: USPT

Aug 13, 1996

US-PAT-NO: 5545435

DOCUMENT-IDENTIFIER: US 5545435 A

TITLE: Method of making a toughened ceramic composite comprising chemical vapor deposited carbon and ceramic layers on a fibrous preform

DATE-ISSUED: August 13, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Steffier; Wayne S.	Huntington Beach	CA	N/A	N/A

US-CL-CURRENT: 427/249.3; 427/248.1, 427/249.15, 427/255.39, 427/255.393,
427/255.6, 427/255.7

ABSTRACT:

A fiber-reinforced ceramic-matrix composite material exhibiting high tensile strength, high fracture toughness and high-temperature oxidation resistance is produced by alternatively depositing multiple thin layers of ceramic material separated by very thin intermediate layers of fugitive carbon onto the fiber reinforcement prior to the subsequent densification with the ceramic matrix. The energy behind propagating matrix cracks in the resulting composite material are effectively dissipated by the progressive increase in crack deflection/branching and frictional slip through the successive ceramic layers of the multilayer fiber coating system. These energy release and arrest mechanisms sufficiently impede the driving force behind unstable crack propagation and render the cracks non-critical, thereby serving to blunt and/or divert propagating matrix cracks at or around the reinforcing fiber. While significantly increasing the strength and fracture toughness of the composite, the multilayer refractory fiber coating system enables the composite to remain oxidatively stable when stressed at or beyond the matrix cracking stress point and subsequently exposed to temperatures above 800.degree. C. in air.

8 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Image
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☐ 11. Document ID: US 5480707 A

Entry 11 of 23

File: USPT

Jan 2, 1996

US-PAT-NO: 5480707

DOCUMENT-IDENTIFIER: US 5480707 A

TITLE: Toughened ceramic composite materials comprising coated refractory fibers in a ceramic matrix wherein the fibers are coated with carbon and an additional coating of ceramic material and carbon mixture

DATE-ISSUED: January 2, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Steffier; Wayne S.	Huntington Beach	CA	N/A	N/A

US-CL-CURRENT: 442/77; 428/378, 428/902, 442/127, 442/178, 442/246, 442/326, 501/35, 501/95.2, 501/99, 87/1, 87/8

ABSTRACT:

A fiber reinforced ceramic composite material exhibiting high tensile strength, high fracture toughness and high-temperature oxidation resistance is produced by simultaneously depositing a thin coating layer of refractory metal carbide with fugitive carbon onto the fiber reinforcement prior to the subsequent densification with the ceramic matrix. The energy behind propagating matrix cracks in the resulting composite material are effectively dissipated by crack deflection/branching, fiber debonding and frictional slip through the relatively weak and compliant fiber coating layer. These energy release and arrest mechanisms sufficiently impede the driving force behind unstable crack propagation and render the cracks non-critical, thereby serving to blunt and/or divert propagating matrix cracks at or around the reinforcing fiber. While significantly increasing the strength and fracture toughness of the composite, the compliant refractory fiber coating system enables the composite to remain oxidatively stable when stressed at or beyond the matrix cracking stress point and subsequently exposed to temperatures above 800.degree. C. in air.

6 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 12. Document ID: US 5455106 A

Entry 12 of 23

File: USPT

Oct 3, 1995

US-PAT-NO: 5455106

DOCUMENT-IDENTIFIER: US 5455106 A

TITLE: Multilayer fiber coating comprising alternate fugitive carbon and ceramic coating material for toughened ceramic composite materials

DATE-ISSUED: October 3, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Steffier; Wayne S.	Huntington Beach	CA	N/A	N/A

US-CL-CURRENT: 442/72; 428/378, 428/902, 442/127, 442/178, 501/94, 501/95.2, 501/99

ABSTRACT:

A fiber-reinforced ceramic-matrix composite material exhibiting high tensile strength, high fracture toughness and high-temperature oxidation resistance is produced by alternatively depositing multiple thin layers of ceramic material separated by very thin intermediate layers of fugitive carbon onto the fiber reinforcement prior to the subsequent densification with the ceramic matrix. The energy behind propagating matrix cracks in the resulting composite material are effectively dissipated by the progressive increase in crack deflection/branching and frictional slip through the successive ceramic layers of the multilayer fiber coating system. These energy release and arrest mechanisms sufficiently impede the driving force behind unstable crack propagation and render the cracks non-critical, thereby serving to blunt and/or divert propagating matrix cracks at or around the reinforcing fiber. While significantly increasing the strength and fracture toughness of the composite, the multilayer refractory fiber coating system enables the composite to remain oxidatively stable when stressed at or beyond the matrix cracking stress point and subsequently exposed to temperatures above 800.degree. C. in air.

6 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☒ 13. Document ID: US 5375275 A

Entry 13 of 23

File: USPT

Dec 27, 1994

US-PAT-NO: 5375275

DOCUMENT-IDENTIFIER: US 5375275 A

TITLE: Portable shower and catch basin assembly for chemical decontamination

DATE-ISSUED: December 27, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sanders; Dennis R.	Albertville	AL	N/A	N/A

US-CL-CURRENT: 4/599; 4/613, 4/900

ABSTRACT:

A portable shower and catch basin assembly for use in performing chemical decontamination procedures has a catch basin made of a highly effective chemical barrier fabric and a support framework of plastic tubing parts that may be erected quickly on site. The framework has vertical posts and horizontal support members provided with mating fittings that snap together. One of the posts has a vertical extension with a cradle that supports a shower pipe. The catch basin fabric is made up of a composite multilayer material resistant to permeation by a wide range of toxic chemicals.

12 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 14. Document ID: US 5344697 A

Entry 14 of 23

File: USPT

Sep 6, 1994

US-PAT-NO: 5344697

DOCUMENT-IDENTIFIER: US 5344697 A

TITLE: Fire-retardant barrier structure

DATE-ISSUED: September 6, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Romanowski; John C.	Londonderry	NH	03053	N/A

US-CL-CURRENT: 442/41; 428/920, 428/921

ABSTRACT:

Fire-retardant barriers are described which are useful for protecting military personnel and equipment from both fire and chemical and/or biological agents. The fire-retardant barriers are multilayered structures having desirable flammability characteristics and resistance to chemical and/or biological agents. The preferred barriers also possess favorable durability properties and are printable.

40 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 15. Document ID: US 5344512 A

Entry 15 of 23

File: USPT

Sep 6, 1994

US-PAT-NO: 5344512

DOCUMENT-IDENTIFIER: US 5344512 A

TITLE: Multilayer fiber-matrix ceramic composite material and process for its production

DATE-ISSUED: September 6, 1994

INVENTOR- INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Colomban; Philippe	Fresnes	N/A	N/A	FRX
Menet; Martine	Elancourt	N/A	N/A	FRX
Mouchon; Emmanuelle	Fontenay aux Roses	N/A	N/A	FRX
Courtemanche; Gilles	Paris	N/A	N/A	FRX
Parlier; Michel	Voisins le Bretonneux	N/A	N/A	FRX

US-CL-CURRENT: 156/89.26; 156/155, 156/297, 156/299, 156/307.4, 156/314

ABSTRACT:

Woven or nonwoven long fiber sheets filled with two precursors each constituting an intermediate stage in a process for the preparation of a vitreous ceramic composition by the sol-gel route by hydrolysis and polycondensation using alcoholates or analogous compounds as the starting materials, that is to say an interface precursor in the form of a gel rich in water and a matrix precursor in the form of discrete particles capable of sintering at relatively low temperature, are stacked; the fibrous structure is compressed in the direction of stacking and the whole is heat-treated in order to convert the two precursors into a continuous matrix.

23 Claims, 8 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Image
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☐ 16. Document ID: US 5318018 A

Entry 16 of 23

File: USPT

Jun 7, 1994

US-PAT-NO: 5318018

DOCUMENT-IDENTIFIER: US 5318018 A

TITLE: Advanced aircrew protection system

DATE-ISSUED: June 7, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Puma; Samuel C.	Torrance	CA	N/A	N/A
Drumheller; Edwin G.	Lawndale	CA	N/A	N/A
Cummings; Darold B.	Hawthorne	CA	N/A	N/A

US-CL-CURRENT: 128/202.11; 600/19, 600/20

ABSTRACT:

An advanced aircrew protection system comprising a helmet assembly adapted to sustain a full pneumatic pressure within the helmet adjacent to the head of the wearer; a suit assembly adapted to sustain a pressure adjacent to selected parts of the body of the wearer; a neck shroud operatively coupled with the helmet assembly and the suit assembly and adapted to pneumatically isolate the helmet assembly from the suit assembly; and controller adapted to independently supply fluid under pressure to the helmet assembly and to the suit assembly. Within the helmet is a dual compartment for an independent supply of fluid to an oral nasal mask separate from the remainder of the helmet assembly.
28 Claims, 21 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 10

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 17. Document ID: US 5270136 A

Entry 17 of 23

File: USPT

Dec 14, 1993

US-PAT-NO: 5270136

DOCUMENT-IDENTIFIER: US 5270136 A

TITLE: Acid-neutralizing battery mat

DATE-ISSUED: December 14, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Noland; E. Bruce	Leesburg	VA	22075	N/A

US-CL-CURRENT: 429/175; 180/68.5, 429/121, 429/176, 429/186, 429/48

ABSTRACT:

An acid-neutralizing battery mat is produced that is useful in preventing or reducing corrosion caused by leaking batteries. The mat is placed underneath a wet cell storage battery and is designed to absorb and neutralize acid which may escape from the battery. The mat is comprised of a porous fibrous base material of needled polypropylene felt which is impregnated with an alkaline substance and a polymer binder. The mat has a sufficient absorbency so that as the acid reaches the mat, it is disbursed throughout a wide area and neutralized by the alkaline substance. The dimensions of the mat are such that a portion of the mat extends beyond at least one bottom edge of the battery. The mat not only protects against acid induced corrosion but also protects the environment from acid contaminants.
19 Claims, 4 Drawing figures
Exemplary Claim Number: 1
Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 18. Document ID: US 5169697 A

Entry 18 of 23

File: USPT

Dec 8, 1992

US-PAT-NO: 5169697

DOCUMENT-IDENTIFIER: US 5169697 A

TITLE: Seaming tape for composite chemical barrier fabrics and method of forming bonded seams

DATE-ISSUED: December 8, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Langley; John D.	Guntersville	AL	N/A	N/A
Williams; Edward A.	Albertville	AL	N/A	N/A

US-CL-CURRENT: 428/57; 156/304.1, 156/304.3, 428/347, 428/349, 428/475.8, 428/476.1, 428/500, 428/515, 428/516, 428/518, 428/520, 428/58, 428/60, 428/61

ABSTRACT:

Seaming tape made up of a composite multilayer material of specified composition is used to form bonded seams between pieces of composite chemical barrier fabrics. The tape includes a base multilayer material made up of a stacked, laminated array including an outside layer of ethylene vinyl acetate and successive layers of polyvinylidene chloride, ethylene vinyl acetate, and chlorinated polyethylene. Tape of this composition may be bonded to a variety of polymeric materials and provides an effective seam for some applications. A second multilayer film sheet bonded to the base sheet provides a more effective seam for forming a barrier to a wide spectrum of chemicals. The second film sheet includes an interior layer of ethylene vinyl alcohol sandwiched between layers of nylon or polyethylene. To form a bonded seam, the tape is placed over an interface between pieces of fabric and is bonded by application of heat and pressure, with the barrier fabric first being stitched together if desired to provide a more durable seam. The seaming tape and method are particularly useful for seaming of composite multilayer chemical barrier fabrics. A highly effective and durable seam is obtained by use of the invention.

10 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 19. Document ID: US 4975316 A

Entry 19 of 23

File: USPT

Dec 4, 1990

US-PAT-NO: 4975316

DOCUMENT-IDENTIFIER: US 4975316 A

TITLE: Fire-retardant barrier structure

DATE-ISSUED: December 4, 1990

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Romanowski; John C.	Londonderry	NH	03053	N/A

US-CL-CURRENT: 442/41; 428/920, 428/921

ABSTRACT:

A fire-retardant laminated plastic material which includes a woven barrier layer of high-density polyethylene sandwiched between outer layers of low-density polyethylene material in which a polymer of antimony trioxide is incorporated in the outer layers. Additional outer layers may be laminated to the structure to serve as a carrier of pigments or to increase abrasion resistance of the structure.

8 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 20. Document ID: US 4868042 A

Entry 20 of 23

File: USPT

Sep 19, 1989

US-PAT-NO: 4868042

DOCUMENT-IDENTIFIER: US 4868042 A

TITLE: Antiwicking compositions and fabrics treated therewith

DATE-ISSUED: September 19, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Adiletta; Joseph G.	Putnam	CT	N/A	N/A

US-CL-CURRENT: 442/169; 523/103, 524/379, 524/520, 525/199, 525/200

ABSTRACT:

A novel antiwicking composition is provided for which comprises a fluorinated ethylene/propylene copolymer, a polymeric fluoroaliphatic ester, a liquid carrier, and a dispersant. Preferably, the novel antiwicking compositions also comprise a wetting/saturating agent. A method for imparting antiwicking properties to a fabric also is provided for, which method comprises applying the novel antiwicking compositions to the fabric. Additionally, fabrics having more universal resistance to wicking are provided for, which nonwicking fabrics comprise fabrics treated with the novel antiwicking compositions.

16 Claims, 0 Drawing figures

Exemplary Claim Number: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 21. Document ID: US 4865903 A

Entry 21 of 23

File: USPT

Sep 12, 1989

US-PAT-NO: 4865903
DOCUMENT-IDENTIFIER: US 4865903 A

TITLE: Chemically resistant composite structures and garments produced therefrom

DATE-ISSUED: September 12, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Adiletta; Joseph G.	Thompson	CT	N/A	N/A

US-CL-CURRENT: 428/215; 428/421, 428/422, 442/289

ABSTRACT:

A flexible, impermeable, universally chemically resistant composite structure which may be fabricated into protective clothing useful, for example, in the handling and clean up of hazardous chemicals is provided for, which composite structure comprises a fabric substrate, and thermally-melt-bonded on both sides thereof, a coated film, which coated film comprises a PTFE film having a thermoplastic fluoropolymer coating on both sides thereof. Preferably, the fabric substrate of the composite structure has been treated with an antiwicking agent.

A method for forming such composite structures is provided for, which method comprises thermally-melt-bonding a PTFE film having a thermoplastic fluoropolymer coating on both sides thereof to each side of a fabric substrate.

Articles of protective clothing are also provided for which are fabricated from the subject composite structures.

23 Claims, 3 Drawing figures

Exemplary Claim Number: 1,2

Number of Drawing Sheets: 2

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☒ 22. Document ID: US 4855178 A

Entry 22 of 23

File: USPT

Aug 8, 1989

US-PAT-NO: 4855178

DOCUMENT-IDENTIFIER: US 4855178 A

TITLE: Composite chemical barrier fabric

DATE-ISSUED: August 8, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Langley, John D.	Guntersville	AL	N/A	N/A

US-CL-CURRENT: 442/398; 2/455, 2/457, 428/317.3, 428/319.7, 428/319.9, 428/475.8, 428/476.1, 428/518

ABSTRACT:

A multilayer chemical barrier fabric is made up of a base sheet of nonwoven polypropylene laminated to a multilayer film sheet having a film of ethylene vinyl alcohol sandwiched between films of nylon with a surface film of linear low-density polyethylene. Fabrics having this structure show resistance to breakthrough within 8 hours for 13 of 15 chemicals listed on the ASTM F1001 chemical test battery and shorter breakthrough times for the other two.

4 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Image
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☒ 23. Document ID: US 4833010 A

Entry 23 of 23

File: USPT

May 23, 1989

US-PAT-NO: 4833010

DOCUMENT-IDENTIFIER: US 4833010 A

TITLE: Composite chemical barrier fabric

DATE-ISSUED: May 23, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Langley, John D.	Guntersville	AL	N/A	N/A

US-CL-CURRENT: 442/396; 2/243.1, 2/455, 2/457, 2/901, 428/317.3, 428/319.7, 428/319.9, 428/475.8, 428/476.1, 428/518, 442/398, 442/417

ABSTRACT:

A multilayer chemical barrier fabric is made up of a base sheet of nonwoven polypropylene laminated on one side to a multilayer film sheet having a film of ethylene vinyl alcohol sandwiched between films of nylon with a surface film of linear low-density polyethylene bonded to the outer film of nylon and laminated on the other side to a multilayer film sheet having a central film of polyvinylidene chloride, an inner film of ethylene vinyl acetate, and an outer film of low-density polyethylene. Fabrics having this structure show resistance to breakthrough within eight hours for all fifteen chemicals listed on the ASTM F1001 chemical test battery. A composite fabric having the above structure, but omitting the multilayer film that contains polyvinylidene chloride, is also disclosed.

6 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Image
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Term	Documents
COMPOSITE.USPT.	181079
CHEMICAL.USPT.	484459
BARRIER.USPT.	114546
FABRIC.USPT.	107679
((CHEMICAL ADJ BARRIER) AND FABRIC AND COMPOSITE).USPT.	23

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including document number

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Term	Documents
FABRIC.DWPI.	97633
POLYPROPYLENE.DWPI.	68831
(POLYPROPYLENE AND FABRIC).DWPI.	3986

Database: [Derwent World Patents Index](#)[fabric and polypropylene](#)**Refine Search:****Search History**

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DWPI	fabric and polypropylene	3986	L5
USPT	fabric and polypropylene	19047	L4
USPT	composite and chemical barrier and fabric	23	L3
DWPI	composite and chemical barrier and fabric	4	L2
DWPI	composite chemical barrier fabric	0	L1

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Search Results - Record(s) 1 through 4 of 4 returned.☐ 1. Document ID: US 5948708 A

Entry 1 of 4

File: DWPI

Sep 7, 1999

DERWENT-ACC-NO: 1999-550412

DERWENT-WEEK: 199946

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TITLE: A composite fabric for conversion into a chemical vapor and flash fire protection garment

INVENTOR: LANGLEY, J D

PRIORITY-DATA:

1996US-0610000

February 29, 1996

1994US-0201674

February 25, 1994

PATENT-FAMILY:

PUB-NO

PUB-DATE

LANGUAGE

PAGES

MAIN-IPC

US 5948708 A

September 7, 1999

N/A

007

B32B027/00

INT-CL (IPC): B32B 27/00

ABSTRACTED-PUB-NO: US 5948708A

BASIC-ABSTRACT:

NOVELTY - A composite flash fire and chemical resistant fabric (11) consists of an inner composite chemical barrier layer (12) to minimize chemical permeability, a flame resistance layer (13) and a reflective layer (14) for reflecting radiant energy consisting of a metallic film which will not ignite when subjected to an open flame for at least 3 seconds or stainless steel spattered on the flame barrier layer.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is included for a hazardous materials handling suit fabricated from the composite material.

Preferred features: The layers of the composite are bonded together by the appropriate bonding agents.

USE - By personnel handling hazardous chemicals and emergency response crews who can be called to unknown toxic and life threatening emergencies particularly industrial chemical spillage.

ADVANTAGE - A single chemical impervious garment providing protection from chemical flash fires replacing the two separate garments required in prior art one for chemical one for flash protection which is bulky difficult to work in and create difficulties if storage in the response vehicle.

DESCRIPTION OF DRAWING(S) - The drawing shows a section through the composite fabric.

composite fabric 11

chemical barrier 12

flame resistance layer 13

reflective layer 14

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 2. Document ID: US 5375275 A

Entry 2 of 4

File: DWPI

Dec 27, 1994

DERWENT-ACC-NO: 1995-074100

DERWENT-WEEK: 199510

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TITLE: Portable shower and catch basin for chemical decontamination - has PVC faced flexible material attached to tubular framework with upward extending pipe supporting shower head

INVENTOR: SANDERS, D R

PRIORITY-DATA:

1993US-0143615

November 1, 1993

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5375275 A	December 27, 1994	N/A	006	A47K003/23

INT-CL (IPC): A47K 3/23

ABSTRACTED-PUB-NO: US 5375275A

BASIC-ABSTRACT:

Appts. has a catch basin (12) of flexible composite fabric (18) engaging the top rim of a supporting framework (16), a shower pipe support (90) extending vertically up from the framework and a shower water supply pipe (14) including a spray nozzle (102). Pref. the framework is of plastic tubing defining a rectangular basin. The fabric esp. has top and bottom faces of PVC.

The chemical barrier fabric comprises a base sheet of non-woven polypropylene having laminated to one face a first multilayer sheet comprising a film of ethylene vinyl alcohol sandwiched between films of nylon with an outer film of LLDPE bonded to the nylon film .

USE - Used as portable shower and catch basin for on-site chemical decontamination of workers' clothing.

ADVANTAGE - Catch basin prevents permeation by chemicals.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWIC	Image
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☐ 3. Document ID: US 5626947 A, WO 9324321 A1, FI 9405588 A, NO 9404548 A, EP 642418 A1, JP 07507249 W

Entry 3 of 4

File: DWPI

May 6, 1997

DERWENT-ACC-NO: 1993-405565

DERWENT-WEEK: 199724

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TITLE: Composite film for protective fabric - comprises polymer barrier film and thermoplastic polymer adhesive

INVENTOR: HAUER, E J; RUDYS, S K ; ZEIGLER, J ; ZEIGLER, J P

PRIORITY-DATA:

1993US-0063389

May 17, 1993

1992US-0891360

May 29, 1992

1995US-0533407

September 25, 1995

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
US 5626947 A	May 6, 1997	N/A	000	B32B003/00
WO 9324321 A1	December 9, 1993	N/A	000	B32B027/08
FI 9405588 A	November 28, 1994	N/A	000	B32B000/00
NO 9404548 A	November 28, 1994	N/A	000	B32B027/08
EP 642418 A1	March 15, 1995	E	000	B32B027/08
JP 07507249 W	August 10, 1995	N/A	013	B32B027/12

INT-CL (IPC): A62D 5/00; B32B 0/00; B32B 3/00; B32B 27/08; B32B 27/12

ABSTRACTED-PUB-NO: US 5626947A

BASIC-ABSTRACT:

The composite barrier material may be made by laminating a barrier film to a flexible substrate using a thermoplastic resin and top-coating the barrier film with a (dis)similar thermoplastic resin to allow fabric seaming when the fabric is made into a protective garment.

USE/ADVANTAGE - Composite barrier films and fabrics that are partic. useful in protective garments. Protective garments made from the materials are lightweight while maintaining an adequate balance of strength and chemical protection.

ABSTRACTED-PUB-NO:

WO 9324321A EQUIVALENT-ABSTRACTS:

A chemical protective garment comprising a plurality of interconnected protective material pieces, each of said protective material pieces consisting essentially of: (a) a point bonded non-woven, flexible, reinforcing, fabric substrate; (b) a barrier film selected from the group consisting of oriented nylon, polyethylene terephthalate, and polyethylene naphthalate films laminated to the fabric substrate by a thermoplastic polymeric adhesive layer; and (c) a thermoplastic polymeric adhesive topcoat adhered to the unlaminated side of the barrier film, the protective material pieces of the garment having a burst strength of at least 75 psi, a chemical barrier rating of at least 50 when the barrier film is less than 0.5 mils thick, and a chemical barrier rating of at least 75 when the barrier film is greater than 0.5, but less than 1.3 mils thick.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KWC	Image
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☐ 4. Document ID: JP 2702580 B2, US 4833010 A, WO 8910840 A, AU 8935522 A, FI 9005309 A, NO 9004755 A, DK 9002609 A, EP 415965 A, JP 04501237 W, CA 1314803 C, DK 166718 B, EP 415965 B1, DE 68918095 E, NO 176352 B, EP 415965 A4

Entry 4 of 4

File: DWPI

Jan 21, 1998

DERWENT-ACC-NO: 1989-177898

DERWENT-WEEK: 199808

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TITLE: Composite fabric - comprises core sheet with internal voids between two multilayer film sheets

INVENTOR: LANGLEY, J D

PRIORITY-DATA:

1988US-0189202

May 2, 1988

1988US-0246672

September 19, 1988

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
JP 2702580 B2	January 21, 1998	N/A	004	B32B027/12
US 4833010 A	May 23, 1989	N/A	004	N/A
WO 8910840 A	November 16, 1989	E	000	N/A
AU 8935522 A	November 29, 1989	N/A	000	N/A
FI 9005309 A	October 26, 1990	N/A	000	N/A
NO 9004755 A	November 1, 1990	N/A	000	N/A
DK 9002609 A	October 30, 1990	N/A	000	N/A
EP 415965 A	March 13, 1991	N/A	000	N/A
JP 04501237 W	March 5, 1992	N/A	004	N/A
CA 1314803 C	March 23, 1993	N/A	000	B32B027/12
DK 166718 B	July 5, 1993	N/A	000	A62B017/00
EP 415965 B1	September 7, 1994	E	006	B32B027/12
DE 68918095 E	October 13, 1994	N/A	000	B32B027/12
NO 176352 B	December 12, 1994	N/A	000	B32B027/12
EP 415965 A4	July 17, 1991	N/A	000	N/A

INT-CL (IPC): A41D 31/02; A62B 17/00; A62D 5/00; B27B 27/32; B32B 27/12; B32B 27/20; B32B 27/28; B32B 27/30; B32B 27/32; B32B 27/34

ABSTRACTED-PUB-NO: EP 415965B

BASIC-ABSTRACT:

Multilayer composite fabric, e.g. chemical barrier fabric, comprises a core sheet having internal voids which is adhered between two multilayer film sheets, the core sheet pref. being nonwoven polypropylene fabric.

One film sheet comprises ethylene vinyl alcohol film with nylon films on each surface, and an outer film of heat-sealable polyethylene. The other film sheet comprises the same outer film, inner ethylene vinyl acetate film, and an internal film of PVC between.

USE - Esp. protective garments.

ABSTRACTED-PUB-NO:

US 4833010A EQUIVALENT-ABSTRACTS:

A composite multilayer fabric comprising: a base sheet of fabric having internal open spaces, a first multilayer film laminated to one face thereof and a second multilayer film laminated to its opposite face; the first multilayer film comprising a film of ethylene vinyl alcohol, a film of nylon laminated to each face thereof, and an outer film of heat-sealable polyethylene; and the second multilayer film comprising a film of polyvinylidene chloride having a film of ethylene vinyl acetate laminated to the inner face thereof and a film of heat-sealable polyethylene laminated to its outer face.

Full	Title	Citation	Front	Review	Classification	Date	Reference	Claims	KMIC	Image
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Term	Documents
COMPOSITE.DWPI.	123591
CHEMICAL.DWPI.	1227335
BARRIER.DWPI.	56985
FABRIC.DWPI.	97633
((CHEMICAL ADJ BARRIER) AND FABRIC AND COMPOSITE).DWPI.	4

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